

# THE W.A.T.E.R. PROJECT - PHASE II

Waterbury Active Transportation and Economic Resurgence - Phase II



Waterbury, CT, 3<sup>rd</sup> & 5<sup>th</sup> Congressional Districts  
FY 2022 RAISE Capital Project Grant Application  
Submitted by the City of Waterbury  
Grant Request: \$24 Million



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# 1. PROJECT DESCRIPTION

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## OVERVIEW

The City of Waterbury is requesting \$24,000,000 in funding under the United States Department of Transportation RAISE discretionary grant program to construct several transportation improvements to address mobility constraints and reconnect historically disadvantaged neighborhoods that have been split by the Interstate 84 and the Route 8 Expressways. The Naugatuck River flows through the City, further separating neighborhoods. This project will help create linkages across the river from census blocks in environmental justice communities into the heart of the City's downtown. The proposed project, entitled "**Waterbury Active Transportation and Economic Resurgence (WATER) – Phase II**" is intended to address challenges surrounding mobility and lack of community connectivity by reconnecting neighborhoods and providing multi-modal transportation options.

In 2014, Waterbury applied for TIGER IV funding to complete a \$19.1 million project entitled: "Waterbury Active Transportation and Economic Resurgence (WATER)." Funding was awarded and the project was completed on schedule and significantly under budget (with the project totaling ~\$15.9M). All administrative reporting requirements were met within guidelines of the USDOT and TIGER IV program. The WATER project was a multi-faceted mobility enhancement project intended to revitalize Waterbury's river and rail corridor neighborhoods and downtown center to drive the economic resurgence of the Freight Street redevelopment district. The project successfully reconstructed several downtown streets and installed an integrated system of active transportation improvements to better connect downtown to the riverfront. The original application for the TIGER IV grant included five components, three of which were not funded under the project's assistance agreement. Components completed under the TIGER IV grant were:

1. Freight Street Reconstruction - the reconstruction of a deteriorated street of a former industrial corridor as a complete street with green infrastructure, new utilities, and a bicycle side-path
2. Jackson Street Reconstruction and Extension - the reconstruction and extension of a deteriorated and dead-end street to create a new north-south connection through the City's downtown and begin a block network for redevelopment of the district
3. Meadow Street - area improvements adjacent to the City's Downtown Train Station along Meadow Street. These included the extension of a bicycle side-path to the train station plaza, the enhancement of bicycle and pedestrian connections, narrowing of roadways, expansion of sidewalks, and the implementation of pedestrian safety technology.

Waterbury is seeking RAISE grant funding to complete components of the WATER Phase II project which will continue and enhance the improvements made under the TIGER IV project. This project will leverage TIGER IV funding to further enhance mobility of the city's workers and residents, and continue to revitalize and convert the area into a sustainable community and an attractive place to live, work, and play. WATER Phase II will benefit residents living and working in areas identified as Historically Disadvantaged and Environmental Justice Communities, fostering revitalization of the economic base of a Distressed Municipality.

## PROJECT COMPONENTS

WATER Phase II comprises four active transportation components. Each is designed to connect Downtown Waterbury to the riverfront, shift the core of the city to include the Freight Street Corridor, and reinforce each other to facilitate redevelopment of a vibrant district.





**1** Waterbury Naugatuck River Greenway Trail Phase II:

***The Naugatuck River & Naugatuck River Greenway Trail:***

Once so polluted by the thriving industries that lined its banks that it registered not a single living species by the 1950s, the Naugatuck River has, with enormous effort by the United States Environmental Protection Agency, Connecticut Department of Energy and Environmental Protection (DEEP), and local municipalities and organizations, been restored to support fishing, boating and swimming. Responding to a renewed appreciation of the river and desire of residents to reconnect with it, a multi-use trail is taking shape along the Naugatuck River.

The Naugatuck River Greenway Trail (NRG Trail) is a planned 44-mile multi-use trail following the Naugatuck River, running almost the entirety of the length of Connecticut, from Torrington south through 11 communities to Derby. To date, approximately seven miles of the trail have been completed and are open to the public and several towns along the route are actively working to construct more. Oversight of design and construction of the NRG Trail is generally being conducted at the local level. However, efforts are being coordinated through the inter-regional

**PROPOSED GREENWAY ROUTE**



NRG Steering Committee consisting of municipal representatives from all 11 river communities and stakeholders. The NRG is identified as an Officially Designated Connecticut Greenway by the CT Greenways Council and the CT DEEP. The US Department of Interior designated the greenway as “a keystone conservation and outdoor recreation project of President Obama’s America’s Great Outdoor Program” in 2012.

The NRG Trail will serve as a valuable alternative transportation option for pedestrians and cyclists. Residents who do not drive, do not have access to a motor vehicle, or opt for an active transportation option will have a safe route along which to commute and travel. The trail will serve as a catalyst for transportation connectivity, reconnecting neighborhoods split by I-84, Route 8 and other major arterials that cross the region. Once completed, the NRG Trail will provide connections to public transit, with each rail station in the Naugatuck Valley region and almost all local and express bus routes within walking or biking distance of its path. This project will connect municipalities and residents throughout the region and State, providing multi-modal and low-carbon transportation opportunities that are accessible and will enhance mobility, especially for traditionally underserved persons.

#### ***Waterbury’s 7.5-Mile Stretch of the NRG:***

In Waterbury, the trail will wind 7.5 miles from its border with Naugatuck to Watertown. Construction is almost complete on Phase I of Waterbury’s section of the NRG, which will stretch 2.2 miles from Naugatuck to Eagle Street, south of downtown Waterbury. The project, which is being funded through Federal, State and Local sources, will be completed in September of 2022. The critical next step for Waterbury’s Section of the NRG, addressed with this application, will be the extension of the trail from Eagle Street into downtown Waterbury and its connection to bicycle and pedestrian facilities installed along the industrial Freight Street Corridor as part of Phase I of the WATER project.

#### ***RAISE Grant Component of the NRG:***

This project component includes construction of a multi-use trail along the riverfront from the intersection of Eagle Street and South Main Street to West Main Street. The planned alignment will extend the trail 2.3 miles through a challenging industrial and post-industrial landscape. The project will help spur remediation of several industrial parcels and serve as a cap for contaminated soil where deemed appropriate. Given the urban nature of the Waterbury section of the NRG trail’s location, it will be built with a hard surface and designated with pavement markings and signage as a bi-directional shared-use path. In some locations, where opportunity presents, separate pedestrian-only side paths will be constructed.

The northern terminus of Phase I project currently under construction ends at Eagle Street. The extension will continue within the right-of-way of South Main Street and then along the top of river bank and behind businesses fronting South Main Street. It will follow a broad gravel bar and an old railroad right-of-way. After crossing the Mad River, the trail will pass through the Anamet redevelopment site.

The city has secured \$4.225 million grant to remediate the contamination on the site (related project). The trail will follow Jackson Street, which was reconstructed and extended to West Main Street utilizing TIGER IV funding, and wind through the planned riverfront project (component 2 of the RAISE project). From the riverfront park area, the trail follows the east side of the river north of I-84 to Freight Street, where it will connect with bicycle and pedestrian enhancements completed under the TIGER IV project.

## 2 Jackson Street Riverfront Park:

Phase I of the WATER Project improved access to adjacent industrial parcels. The City intends to take advantage of this improved access by converting an approximately nine-acre vacant parcel into a new riverfront park under WATER Phase II. The parcel is bounded by the Naugatuck River along its west edge, the reconstructed Jackson Street (a WATER Phase I action,) along the east edge and the looming I-84/Route 8 interchange to the north. The parcel is located along a particularly scenic stretch of the river and is only a half mile from the downtown area and the City's historic Downtown Green.

The proposed component would accommodate the NRG Trail, a separate pedestrian path at the water's edge, establishment of turf and meadow grasses throughout the site, planted trees along the trail and restoration of the native riparian habitat along the river banks. The CTDOT is currently utilizing the parcel as a staging area during an ongoing ramp rehabilitation project for the I-84 and Route 8 interchange. The project is anticipated to be completed in 2023.

Waterbury does not have a municipal park along the Naugatuck River and this broad site offers an opportunity to rectify that oversight. The City is committed to pursuing implementation of additional park improvements in the future, such as playground, sports courts and athletic fields, performance venue and other amenities.

## 3 West Main Street Renovation & Improvements:

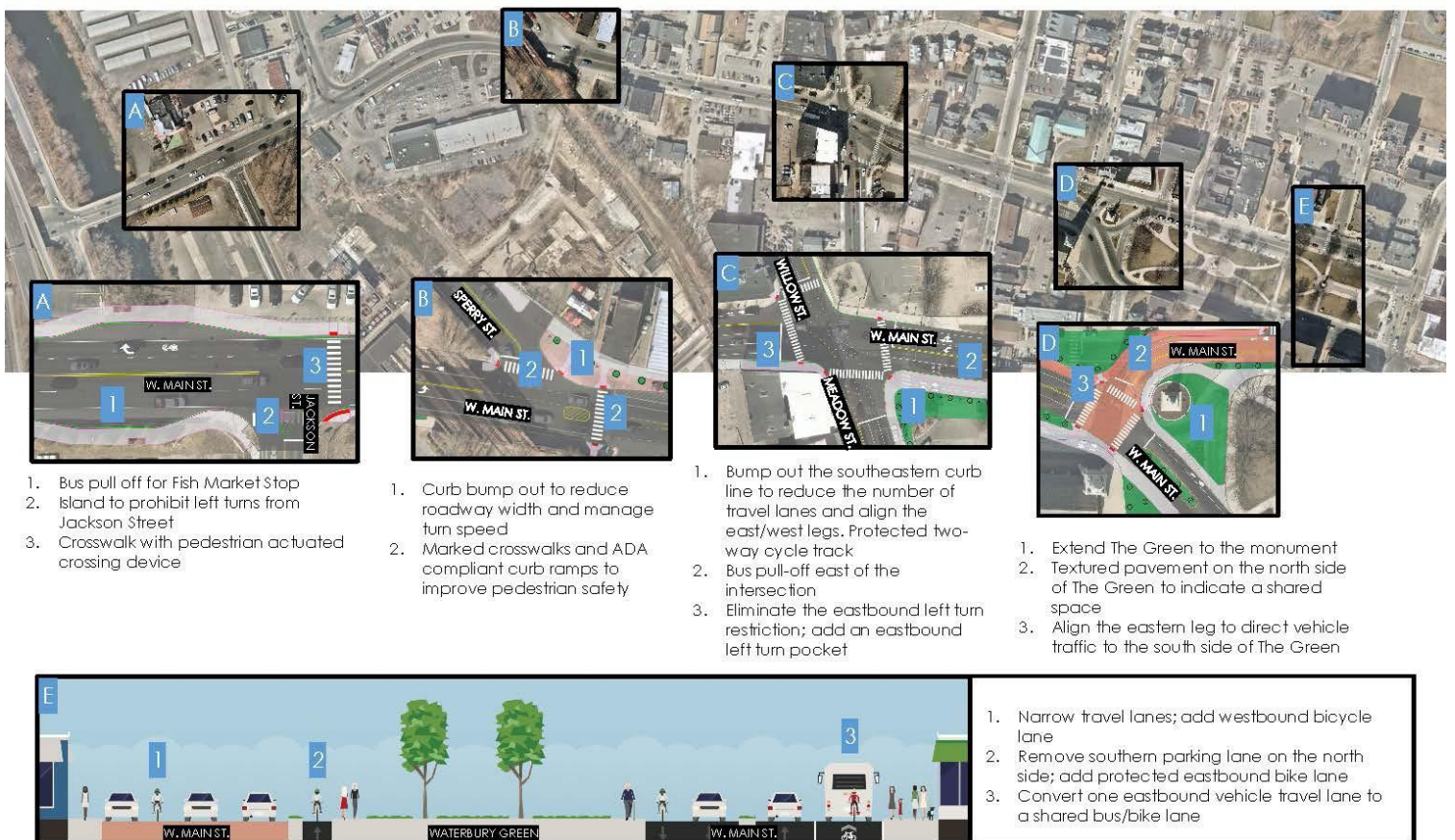
The proposed West Main Street improvements will address existing safety and operational deficiencies, deteriorated road conditions and provide enhanced access for pedestrians and bicyclists in a major east-west travel corridor that links the east and west sides of Waterbury. West Main Street connects several regionally significant employers and destinations. This project component is located between the Waterbury Green and downtown Waterbury on the east and Riverside Drive and the Route 8 overpass on the west end of the project. Proposed enhancements are guided by a complete streets approach and include intersection realignment and narrowing, sidewalk construction and rehabilitation, construction of new bicycle lanes; and traffic calming strategies.

The main element of this component will be implementation of a road diet to reduce the number of travel lanes and provide a uniform road width. To accomplish this, one eastbound vehicle travel lane between Thomaston Avenue and the railroad overpass will be eliminated.

Further lane reductions are proposed in the eastbound direction east of Willow Street and Meadow Street. The number and width of vehicle travel lanes will also be reduced in the westbound direction between Willow Street and Meadow Street and Church Street. This reallocation of street space dedicated to motor vehicles will free up area along both sides of West Main Street to enhance active transportation mobility. A combination of bicycle lanes, bus lanes and pull-offs, on-street parking, a shared use path, and additional landscaped areas will be installed along the corridor. New mid-block pedestrian crosswalks are planned, along with various pedestrian safety enhancements, such as high visibility treatments, pedestrian activated signal systems, curb extensions. Bicycle safety and travel will be addressed through a combination of dedicated bike lanes and a protected shared-use path along a portion of the corridor. Various streetscape improvements will also be implemented to further provide traffic calming measures that slow the speed of motor vehicles, increase green space and improve the overall appearance and aesthetics of the corridor.

Overall, the goal of the West Main Street Component is to revitalize the existing mixed-use and retail area along West Main Street and better connect the two sides of the Naugatuck River that have historically been split by the construction of the elevated Route 8 and I-84 highways. The project will also provide multiple opportunities for transit-oriented redevelopment and reconfigure traffic flow in an area of the City that is currently inefficient.

## WEST MAIN STREET CORRIDOR STUDY





#### 4

### EV Charging Stations at the Waterbury Train Station:

The concept of developing a multi-modal transportation center to serve Waterbury and the surrounding region has been in discussion for several years, with the long-term phased approach making significant progress over the past two years.

The first phase of this component resulted in the demolition of a long-vacant building owned by the CTDOT that was located in front of and blocked the view of the train station parking lot. The demolition provided easier access to the train station from the street, increasing connectivity as well as safety. In 2020, the renovation project of the train station parking lot was completed. The project included various improvements and cost ~\$1.8 million with funding from Federal and State sources. The parking lot improvements included subsurface base and drainage improvements, new pavement, curbing, lighting, and improved accessibility along with bus shelters and landscaping to beautify this gem in the downtown.

As part of the train station lot's renovation project, the conduit and transformers were installed for four electrical vehicle charging stations. Two charging stations with four charging heads have since been installed. The proposed RAISE grant will fund installation of additional EV charging stations to ensure adequate charging capacity at the train station as EV adoption increases.

Imminent increases in service on the Waterbury rail line will attract additional commuters and the Waterbury station, as the starting point on the line, has the potential to attract commuters from a wide area of northern Naugatuck Valley. Providing EV charging stations adjacent to downtown will also help attract EV drivers to downtown businesses, government offices and other services. The installation of adequate EV charging infrastructure is critical to encouraging low-carbon travel and reducing GHC emissions.

### COMMUNITY CHARACTERISTICS

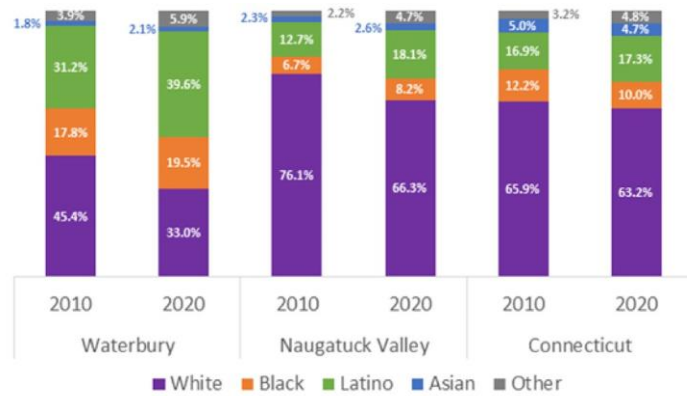
The City is ranked eighth, out of 169 cities and towns, on the Connecticut Department of Economic and Community Development's list of Distressed Communities in Connecticut. As of December 2021, the city had an unemployment rate of 7.2% compared to 4.4% statewide. With a rate of 26.8%, poverty continues to be a factor affecting the wellbeing of the city's residents. The median household income is only \$42,754, which is about half the median income for the state. Per capita income (\$24,051) is also substantially lower than the income levels of the New Haven-Milford metropolitan area (\$38,170) and about half of the statewide average of \$45,539.

Within the project area, roughly 15.4% of households do not have a vehicle available for use, over twice the rate for the city as a whole. Four tracts in the area have rates higher than this average. These rates are indicative of the need for enhancing connectivity and providing convenient and accessible mobility options.

## 2. PROJECT LOCATION

The City of Waterbury is located in west-central Connecticut at the junction of Interstate 84 and the Route 8 Expressway. It is centrally located among the larger cities of Connecticut. Waterbury is in New Haven County and is the central city of the census-designated Waterbury urbanized area (UA Code 92485). Waterbury has a population of 114,403 residents as of the 2020 Census. This includes 28,347 children and 86,056 adults. Since the 2010 decennial Census, the city has experienced a population increase of 3.7%. Waterbury has large concentrations of racial and ethnic minority populations, making it more diverse in comparison to the Naugatuck Valley Region.

Of the 114,403 residents, 67.1% are nonwhite or people of color, compared to just 33.7% of the residents in the region. Of the City’s population, 39.6% identify as Hispanic or Latino. Of Waterbury’s population, 36.7% speak a language other than English at home.



### *Connections to Existing Transportation Infrastructure:*

The City is linked to the rest of the state via a diverse and extensive transportation network that offers its residents an integrated range of options. The main travel corridors are Interstate 84 in the east-west travel corridor, extending from the New York state line in Danbury to the Massachusetts State line, and Route 8 in a north-south direction from Bridgeport to Winchester. I-84 connects directly with I-91 in Hartford and I-90 in Massachusetts. It also provides an interchange with I-691 that connects the region to I-91 in Meriden and Route 15 (Wilbur Cross Parkway). The Route 8 Expressway connects I-95, Route 15 (Wilbur Cross Parkway) and I-84.

At the junction between I-84 and Route 8 there is a complex, stacked interchange that was built in the 1960s. It was designed to facilitate not only movements between the limited access highways but also movements between the local street network and the expressways. The interchange, locally known and referred to as the “Mixmaster,” reflecting the complex and intertwined ramp system, effectively bisected the city and split neighborhoods. Repairs to this mixmaster are currently underway.



Both temporary and permanent repairs to several of the ten separate bridges that make up the Mixmaster are well underway and should be completed in 2023. The project consists of deck repairs, and replacements, steel repairs, substructure repairs, joint repairs, etc. The project is anticipated to improve traffic flow in the area and further reduce traffic congestion at one of the main highway intersections in the State of Connecticut. It is also intended to extend the use life of the interchange by 25 years to allow the CTDOT time to determine how best to address a full replacement.

Waterbury and the region are served by commuter rail operated by the Metro-North Railroad, a subsidiary of the New York City Metropolitan Transportation Authority (MTA). Six stations are located along the Waterbury rail line, a branch of the New Haven rail main line, with the Waterbury station serving as the starting point. Commuter rail service provides access to the southwestern part of Connecticut, as well as the New York metropolitan area. Recently, the CTDOT completed a \$115 million upgrade to the rail line including signal and communication upgrades, track improvements, rail siding installation and repairs to rail bridges in Derby, Seymour and Naugatuck. In addition, the CTDOT received a RAISE grant under the FY 2021 solicitation to construct major improvements and renovations at the Derby-Shelton station. The Department is also designing the relocation of the station in Naugatuck to better position it for future transit-oriented development projects. The CTDOT is also committed to installing high-level platforms at all stations.

The Greater Waterbury area is also served by several fixed-route local and express bus services. Local bus service centered on Waterbury is provided by the Waterbury Division of Connecticut Transit (CTtransit), while CTtransit's New Haven Division provides service between Waterbury and New Haven. Express bus services operate from the Waterbury train station and provide connections to Hartford via the CTfastrak, Meriden and Torrington. Specialized paratransit services are provided to meet the transportation and accessibility needs of the elderly and disabled.

***Target Location:***

The project area spans three Census Tracts – 3519, 3523, and 3501 – and will have direct impacts on five other tracts that are adjacent to the project area – 3505, 3514, 3515, 3616.01, and 3517. The demographic and income data for these areas are shown in the following table. The number of people living in these tracts totals 26,290 which accounts for 23.0% of the city's population. The combined area has a similar minority and ethnic make-up as the city as a whole. The target location of the proposed WATER Phase II project includes the areas of Waterbury just west and south of downtown, neighborhoods around West Main Street and along the east and west sides of the City, currently disconnected by the Naugatuck River. This area is proximate to the City's downtown area, but the elevated I-84 viaduct acts a barrier and prevents seamless connections. The Waterbury Train Station is within 0.3 miles by way of Freight Street and 0.5 miles by way of the West Main Street component.

The north edge of the project area is defined by the West Main Street corridor. West Main Street is a vital link in the city, connecting the west side to the downtown area and the Waterbury Green. Part of the street is designated as State Route (SR) 847. The section closer to the Green is locally maintained. West Main Street also acts as a principal bus corridor for local bus routes serving the west side of Waterbury and provides access to the system’s pulse-point located at and near the Green. A large number of commercial uses span the corridor which creates an excessive number of curb-cuts and driveways. The auto orientation of the corridor makes it unattractive for pedestrians and bicyclists to travel. The north-south spine of the project is aligned around Jackson Street between West Main Street to Bank Street, and then generally around South Main Street to Eagle Street. This corridor consists of several existing and former industrial sites. Several Brownfield sites are located in the area along South Main Street.

### Community Statistics

Census Tract	Within or Adjacent to Project?	HDC?	APP?	EJ?	OZ?
3519	Within	No	No	No	Adjacent
3523	Within	No	Yes	Yes	Adjacent
3501	Within	Yes	Yes	Yes	Yes
3505	Adjacent	No	Yes	Yes	Yes
3514	Adjacent	Yes	Yes	Yes	Adjacent
3515	Adjacent	Yes	Yes	Yes	Yes
3516.01	Adjacent	Yes	No	No	Adjacent
3517	Adjacent	No	Yes	Yes	Yes

The table to the left showcases characteristics about each of the census tracts involved in the project, based on whether the census tract is located in a Historically Disadvantaged Community (HDC), Area of Persistent Poverty (APP), Opportunity Zone (OZ), or Environmental Justice (EJ) neighborhood. The table below outlines further demographic and income information.

### Demographic Data for Census Tracts in and Adjacent to the Project Area

Census Tract Number	Within or Adjacent to Project?	Population	Population Density	Racial Composition (Percent)				Median Household Income	Per Capita Income	% Below Pov. Level
				White	Black	Other	Hispanic			
3519	Within	2,235	883.6	68.8%	6.2%	9.2%	15.8%	\$76,739	\$33,674	11.6%
3523	Within	2,621	1,031.0	34.5%	32.3%	1.6%	31.6%	\$44,352	\$22,692	23.2%
3501	Within	3,809	8,617.1	25.3%	17.1%	5.2%	52.4%	\$13,410	\$15,045	59.4%
3505	Adjacent	2,279	7,282.2	14.9%	13.3%	5.2%	66.6%	\$25,156	\$13,113	54.7%
3514	Adjacent	4,229	9,615.6	23.3%	15.2%	10.4%	51.1%	\$34,507	\$17,067	25.5%
3515	Adjacent	4,951	4,573.3	42.5%	20.0%	8.3%	29.2%	\$56,292	\$24,356	26.2%
3516.01	Adjacent	3,066	6,858.9	59.9%	6.1%	1.8%	32.2%	\$49,783	\$32,267	19.0%
3517	Adjacent	3,100	12,273.6	30.6%	21.7%	5.4%	42.3%	\$32,052	\$15,290	40.1%
Total		26,290	3,327.8	36.6%	16.8%	6.3%	40.3%		\$21,340	32.6%
Waterbury		114,403	4,014.1	39.6%	17.9%	5.1%	37.4%	\$42,754	\$24,051	26.8%

### 3. GRANT FUNDS, SOURCES AND USES OF ALL PROJECT FUNDING

REQUESTED AMOUNT \$24,000,000	LOCAL MATCH \$6,000,000
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#### DEMONSTRATION OF FUNDING COMMITMENT & USE OF PROJECT FUNDS

On April 4, 2022, Waterbury’s Board of Aldermen resolved to secure \$6,000,000 of bond funding for capital improvements related to WATER Phase II. See Appendix C for a copy of this resolution. This represents a 20% local match by the City of Waterbury. The allocation of project funds for the implementation of the project is shown in the table below.

Cost Estimate Summary

Component	Cost
Environmental Assessment & Remediation Plan	\$1,000,000
Engineering & Design	\$2,200,000
Waterbury NRG Trail - Phase 2	\$9,900,000
West Main Street Corridor Improvements	\$9,800,000
Naugatuck River Riverfront Park	\$6,900,000
Train Station EV Charging Stations	\$200,000
<b>Total:</b>	\$30,000,000
RAISE Grant Request (80%)	\$24,000,000
Non-federal/Local Share (20%)	\$6,000,000

#### Direct and Linked Investments to WATER Phase II

- **Direct Investment - WATER Phase I.** The final budget for this project totaled to ~\$15.9 million for the project, with ~\$12.4 million allocated from the USDOT under the TIGER program and ~\$3.5 million allocated from the local and non-federal sources.
- **Direct Investment - Waterbury NRG Trail Phase II Project.** The City has invested approximately \$1.7 million in professional consulting fees to develop, coordinate and present the planned NRG Trail section project that was originally included in the WATER project including concept development; production of illustrative graphics; preparation of preliminary design plans and cost estimate; presentations to agencies, stakeholders and the public.
- **Direct Investment - Anamet Site Remediation, Demolition, and Redevelopment.** The City, State, NVCOG, Brownfields Land Bank, and the EPA have invested a total of ~\$6.325 million in remediation of contamination, demolition, and development activities on the Anamet Site.
- **Linked Investment: Waterbury Train Station Improvements:** A total of ~\$1.8 million in Federal and State funding was expended on capital improvements to the Waterbury Train Station parking lot. Work was completed in 2020.

- **Linked Investment: Waterbury Rail Line (Branch of the New Haven Rail Line) Upgrades:** The CTDOT is completing major upgrades to the Waterbury Rail Line at a cost of ~\$116 million. Upgrades include installation of a centralized signal and communication system, track improvements, construction of bypass sidings, and repairs to several bridges in Derby, Seymour and Naugatuck. In addition, the CTDOT received a RAISE Grant from the FY 2021 solicitation to complete renovations to the Derby-Shelton train station. Other upgrades along the WRL include developing plans for the relocation of the Naugatuck train station and designing high-level platforms and traveler information systems at the remaining four stations.
- **Linked Investment: Waterbury NRG Trail Phase I:** Federal, State, and Local funds have totaled approximately ~\$9 million for the construction of the first phase of the Waterbury segment of the NRG Trail that extends from the Naugatuck town line to Eagle Street. The section is under construction and will be substantial completed in September 2022.
- **Linked Investment - 130 Freight and 000 West Main Street Site Remediation, Demolition, and Redevelopment.** The City, State, NVCOG, and the EPA have invested a total of ~\$3.7 million in remediation of contamination, demolition, and development activities on the Site. A portion of the NRG Trail Phase II will run adjacent to the site.
- **Linked Investment - East Main Street Site Rehabilitation.** The City and State funds (~\$2.9 million) are being used to construct a road diet, streetscape enhancements, bus stop improvements and pedestrian enhancements along East Main Street from the Green. The corridor provides access to the UConn Waterbury Branch, the Palace Theater, administrative offices of Post University, Waterbury Police Department and St. Mary's Hospital.
- **Linked Investment - South Main Street, Bank Street and North Main Street:** Road and streetscape improvements will be completed along these three streets in vicinity of the Green. The project will continue the enhancements being installed along East Main Street and proposed along West Main Street. About ~\$10.8 million has been committed to the project, which is expected to advance to construction in 2023 and 2024.

## 4. SELECTION CRITERIA

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### SAFETY

The proposed WATER Phase II project will substantially improve safety of all users and reduce the number of crashes. According to the Comprehensive Pedestrian Safety Strategy released January 2021 by CTDOT, there was a 53% increase in the number of pedestrian fatalities in the US between 2009-2018, with pedestrian fatalities increasing at a faster rate than any other type of traffic fatality. This can be attributed to several factors, including: more people walking, more traffic, larger vehicles, more distractions, and the use of drugs and alcohol. The lack of acceptable pedestrian facilities and safety elements also contributes to the frequency of crashes involving pedestrians.

According to UCONN's Connecticut Crash Data Repository, in 2020 there were 100 pedestrian crashes, 106 pedestrian injuries, and 8 pedestrian fatalities in Waterbury. This accounts for 66% of the pedestrian fatalities in the Naugatuck Valley, with a total of twelve pedestrian fatalities

recorded in the Naugatuck Valley Region. According to preliminary data from CTDOT, there were 65 pedestrian fatalities in the State, meaning the City accounted for 12% of the State's total pedestrian fatalities in 2020. Two of the pedestrian fatalities occurred along West Main Street within the project area.

The 2021 Comprehensive Pedestrian Safety Strategy suggests that road diets, pedestrian crossing upgrades, and pedestrian safety zones are effective countermeasures. The NVCOG is completing a planning study on the West Main Street corridor. Data indicate the corridor experiences a high volume of vehicle traffic and high incidence of crashes. About 165 vehicle crashes occur along the corridor each year. The principal types of crashes involve turning vehicles, rear ends and vehicles changing lanes improperly. While most do not result in serious injuries, the frequency affects the general safety of the area and overburdens people living and working along West Main Street. This exposure and its affects are reflected in the EPA's EJScreen tool, which uses traffic proximity as one of the tool's critical EJ indicators.

The preferred alternative along West Main Street will implement several of the countermeasures proposed by the FHWA in their STEP program and Connecticut's Complete Streets Program, including a road diet to eliminate one eastbound travel lane in several sections and provide a uniform road width in the westbound direction. The road diet concept will not affect the levels of service of traffic but will improve the safety of operations. Additionally, the project will implement the following improvements to West Main Street that are consistent with the FHWA and CTDOT: the reduction in road width curb-to-curb, the implementation of enhanced crosswalks and signals, including rectangular rapid flashing beacons (RRFB), installing curb extension, and the expansion of the pedestrian space.

These improvements will help reduce conflict points and the number of sideswipe crashes and will make the corridor safer for pedestrians and bicyclists. In addition, the space currently allocated to unneeded travel lanes will be restructured for a combination of bicycle lanes, bus lanes with bus pull-outs, on-street parking and expanded landscaped/green space along the edge of the street. This change in how the street environment is used will convert West Main Street from an auto-oriented and dominated corridor to a "complete street" that safely accommodates all users, regardless of mode.

The other major component of the proposed project is to construct an extension of Waterbury's section of the NRG Trail through a heavily industrial section of Waterbury, separating bicyclists and pedestrians from the road environment and providing a dedicated path for active transportation. This separation will reduce pedestrian-vehicle conflicts and bicycle-vehicle conflicts, greatly enhancing the safety of these users. It will provide an attractive facility where walkers and bicyclists will feel comfortable using the trail as an alternative to driving.

Due to the sensitive nature of the communities surrounding the target area of the project, safety is a high priority for the City under WATER Phase II. Currently, there are several systemic safety issues that exist within the project area that would be addressed including the cleanup of environmental contamination and blight in ~9 acres of brownfield land. Research has continuously shown that vacant, blighted lots have negative impacts on surrounding communities and can

attract criminal activity, increasing negative public health outcomes for the sensitive receptors in environmental justice communities (Leon, et al, 2017). A study conducted by the Northern Research Station found that upon the cleanup (urban greening) of vacant lots, those who lived in the neighborhoods reported less fear of crime and reported decreased crime (Kondo, et al., 2018). This project would directly contribute to greater safety outcomes for environmental justice communities.

## ENVIRONMENTAL SUSTAINABILITY

### *Air Quality*

**This project will reduce transportation-related air pollution and greenhouse gas emissions from uncoordinated land use decisions.** The Clean Air Act Amendments (CAAA) of 1990 and federal transportation regulations and legislation recognize the major contributions of transportation sources to the overall air quality problem evidenced throughout the country. Two criterion pollutants are critical in Connecticut. These are Ozone and Fine Particulate Matter referred to as PM2.5. Connecticut is divided into two non-attainment areas for the eight-hour ozone National Ambient Air Quality Standard. Both areas are classified as “Moderate” non-attainment. In terms of PM2.5, Fairfield and New Haven Counties are included in the New York-New Jersey-Connecticut (NY-NJ-CT) PM2.5 non-attainment area. The City of Waterbury is located in New Haven County, and, therefore, is included in the PM2.5 non-attainment area.

In addition to the regulated criteria pollutants, efforts are necessary to reduce the generation and emission of Greenhouse gases (GHG). These are gases that trap heat in the atmosphere and cause changes to climate. The most common greenhouse gas and the one primarily emitted through human activity is Carbon Dioxide (CO<sub>2</sub>) comprising about 80% of all greenhouse emissions. CO<sub>2</sub> emission from human activity is mainly from the combustion of fossil fuels and transportation sources account for about 35% of the total.

The proposed components of this project will have a positive and beneficial impact on air quality and will help the state attain compliance with the NAAQS for both criteria pollutants. The project will improve mobility, promote low-carbon transportation, and enhance walking, thereby reducing greenhouse gas emissions.

### *Ozone & PM 2.5*

Ozone is an extremely reactive, colorless gas comprised of three atoms of oxygen. Ozone exists naturally in a layer of the Earth’s upper atmosphere known as the stratosphere, where it shields the Earth from the sun’s harmful ultraviolet rays. However, ozone found close to the Earth’s surface, called ground-level ozone, is a component of smog and a harmful pollutant

Ground-level ozone is produced by a complex chemical reaction between Volatile Organic Compounds (VOC) and Nitrous Oxide (NO<sub>x</sub>) in the presence of sunlight. Mobile source NO<sub>x</sub> emissions form when nitrogen and oxygen atoms chemically react inside the high pressure and temperature conditions in an engine. VOC emissions are a product of incomplete fuel



combustion, fuel evaporation and refueling losses caused by spillage and vapor leakage. Exposure to ozone has been linked to several respiratory health effects, including significant decreases in lung function, inflammation of airways, and increased symptoms such as cough and pain when breathing deeply. High concentrations of ozone can also contribute to reductions in agricultural crop production and forest yields, as well as increased susceptibility of plants to disease, pests, and other environmental stresses such as harsh weather. This pollutant alone contributes to most unhealthy air quality days in Connecticut, as measured by the Air Quality Index (AQI).

Fine Particulate Matter is a mixture of microscopic solids and suspended liquid solids in the air. It is formed directly as a by-product of combustion, such as smoke or automobile exhaust, or indirectly from chemical reactions in the atmosphere. The health effects associated with exposure to fine particles are serious. Scientific studies have shown significant associations between elevated fine particle levels and premature death. Effects associated with fine particle exposure include aggravation of respiratory and cardiovascular disease (as indicated by increased hospital admissions, emergency room visits, absences from school or work, and restricted activity days), lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems such as heart attacks and cardiac arrhythmia. While fine particles are unhealthy for anyone to breathe, people with heart or lung disease, asthmatics, older adults, and children are especially at risk.

### ***Extreme Weather Events, Climate Change, & Resiliency***

The US EPA Office of Research and Development Project recently released the draft findings of two pilot studies surrounding overview of indicators of Community Vulnerability to Extreme Events. Waterbury was the focus of one of the pilot studies. The EPA, working in conjunction with the City and other stakeholders, identified areas of concern, many of which lie along the Naugatuck River. They identified sites or facilities that are either actively managing or have a history of hazardous substances, wastes, or contamination and the role that extreme events (such as flooding) would play on nearby communities as a result of climate change.

The City believes that this draft data is pertinent to this project, as several of the identified facilities in the data lie upstream or within the perimeters of the proposed project. In the event that greenhouse gas emissions rise, contributing to climate change, disadvantaged communities located in or adjacent to the target area of the project would be most vulnerable to extreme events, particularly flooding.

A number of the block groups adjacent to the Naugatuck River and within the project area are within the 100-year flood plain (7.7%), with the number increasing significantly when looking at the 500-year flood plain area (45.3%). When flooding occurs in these areas, it may result in accidental releases of hazardous constituents from industrial sites located upstream. For environmental justice communities, an emergency flooding event could be disastrous because a high percentage of households in the South End (35-80%) do not have a vehicle available to evacuate. Communications regarding an emergency declaration may also be problematic as 41-80% of households in the South End do not have access to the internet.

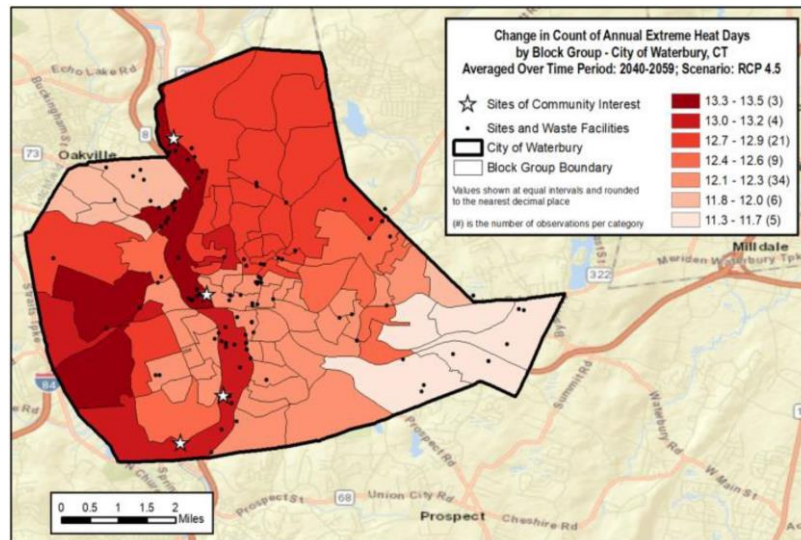
## Recycle or Redevelop Brownfield Sites & Impact on Disadvantaged Communities

**This project recycles and redevelops brownfield sites and addresses the negative environmental impacts of transportation on underserved, overburdened, or disadvantaged communities.** The Naugatuck River Corridor is lined with blighted and environmentally challenged brownfield parcels whose contaminants include lead, PCBs, and others. Many of the census tracts included in the project parameters are disadvantaged communities as defined by the *Justice40 Initiative*.

The Department of Public Health serviced 1,010 children in 2020 whose blood levels were between 5 ug/dl and 19 ug/dl. Waterbury was one of five cities or towns in a 2017 report by the CTDPH with the highest number of childhood lead cases in the State (162 cases) (2017 Annual Childhood Lead Poisoning Surveillance Report). Long-term exposure to lead can directly correlate with infant mortality, increased risk for miscarriage, neurological damage to growing fetuses, and harm to the fetus' organs or nervous system (CDC).

Environmental-related health problems are a concern in Waterbury. According to the 2020 Greater Waterbury Wellbeing Report (2019-2022 GWCWP), Waterbury experiences high volumes of emergency department encounters related to asthma and avoidable admission. The number of people reporting frequent asthma attacks at a rate of once a week is 28% in Waterbury compared to 20% in Connecticut, and slightly less in Greater Waterbury at 23%. For children in a 2017 study who were exposed to heavy traffic, there was an association between heavy traffic and asthma rates that were significantly lower for participants living in areas with over 40% green space (Feng et al., 2017). The proposed Riverfront Park, about half a mile from downtown Waterbury, will revitalize the abandoned and underutilized waterfront area and will include both active and passive park facilities. The planned extension of the NRG Trail will be aligned through the park and there will be a connector trail, which will link the park directly to the downtown area. The Riverfront Park will provide both residents and workers convenient access to large green open spaces and the Naugatuck River.

Environmental Justice communities located in, or adjacent to, the Freight Street Corridor are most vulnerable to climate change, as evidenced by a research study conducted by the USEPA, especially in the context of extreme heat days.



Areas surrounding the NRG Trail are likely to see the most drastic change in count of extreme heat days by up to 13.3-13.5% in the years 2040-2059 as a result of climate change, in comparison to other areas of the City that may only see 11.3-11.7% changes. Areas in the Naugatuck River Corridors also have some of the lowest numbers of available recreational parks. Planned green spaces have been shown to have a cooling effect not only directly in any recreational parks, but in the surrounding urban area (Aram, et al., 2019). For disadvantaged communities most at risk of climate-change related extreme temperature events, planned green space can be a mitigation strategy.

### *Reduction of Vehicle Miles, Promotion of Electrification, & Resilience of Infrastructure*

**This project would result in a reduction of vehicle miles traveled as a result of the promotion of transportation alternatives.** The project provides greater mode choice, especially in EJ neighborhoods and Areas of Persistent Poverty, as well providing an alternative for people traveling through the area. The project passes through an area of Waterbury composed of low-income and high-minority populations and residents living in these areas have not been provided enough mobility options and have been traditionally overburdened by the existing transportation network. This project will provide connections from these neighborhoods to other parts of the city, including the downtown, south end, and west side. The project's transportation alternatives, including the proposal to install more EV charging stations at the train station, **promote energy efficiency and incorporates electrification or zero emission vehicle infrastructure.**

**This project supports fiscally responsible land use and transportation efficient design.** It complements the City's efforts to attract transit-oriented development projects within the area by making the area more attractive, walkable, and livable, as well as improving connections to the downtown area, local bus services, and Waterbury train station. **This project would improve the resilience of at-risk infrastructure,** including the currently dilapidated roadway and streetscape conditions along West Main Street in the City's downtown, which threatens economic growth and stability of the City.

### QUALITY OF LIFE

The WATER Phase II project will contribute to improved quality of life for those living in the project area as well as adjacent neighborhoods. These areas have been disproportionately burdened by the existing transportation system mainly because of proximity to the Route 8 Expressway and I-84. The interchange between these two freeways looms above and beyond the area, making it less attractive to residential and commercial activities. The interchange is prone to congestion and is a high crash area. When incidents occur within the interchange area, adjacent neighborhoods are negatively impacted by vehicles diverting around the problem. The proposed project will convert the corridor of the NRG Trail and West Main Street from an auto-oriented area to a more walkable and livable community.

**The project would increase accessibility for travelers, including ADA accessibility and compliance.** WATER Phase II enhances transportation and mobility options for low-income EJ populations and historically disadvantaged neighborhoods in Waterbury. The active transportation options provide a means of travel that do not require a private vehicle and enhances access to other modes, including commuter rail, local bus services, and express/commuter bus services. Providing these facilities will create an attractive and walkable environment, and the project directly benefits low-income and historically disadvantaged communities. The NRG Trail and the enhancements to be installed along West Main Street will be consistent with ADA requirements and will make it much easier for persons that have a mobility impairment to travel within and through the corridor.

**The availability of alternative transportation options greatly decreases transportation and housing cost burdens, including through commercial and mixed-income residential development near public transportation.** Walkable and bikeable routes to work will decrease the necessity of vehicles - decreasing vehicle maintenance, gas, and insurance costs for average households. The implementation of electric vehicle charging stations decreases the need for gas-powered vehicles. Ownership of an electric vehicle will save the typical driver \$6,000-to-\$10,000 over the life of the vehicle, compared to gas (Harto, 2020). The connection this project will provide to the downtown and other areas of the City by way of West Main Street streetscaping upgrades or the NRG trail means that residents can live in more affordable areas of the City and commute in to work efficiently.

This project **will remove barriers for individuals and communities to transportation, jobs, and business opportunities** by presenting alternative methods of transportation and connecting communities, specifically the downtown, to EJ Communities.

Finally, the project will **enhance the unique characteristics of the community for underserved, overburdened, or disadvantaged communities.** This project supports the community by providing enhanced transportation and mobility options from the surrounding neighborhoods that have traditionally endured transportation burdens and been historically disadvantaged. In 2016 the economic and health benefits from the completion of the Naugatuck River Greenway Trail were assessed. The study ([tinyurl.com/2p992vbj](https://tinyurl.com/2p992vbj)) was conducted by the Connecticut Center for Economic Analysis at the University of Connecticut. The study found that multi-use trails generate substantial health benefits. The expansion of enhanced transportation and mobility opportunities by way of the Waterbury section of the NRG Trail, West Main Street upgrades, and the Riverfront Park will help reduce incidence of health issues, including reducing obesity rates (currently at 29% in Waterbury) risks of cancer, and cardiovascular disease (Greater Waterbury Well Being Profile). The Riverfront Park will also ensure that disadvantaged communities in the Naugatuck River corridors have access to recreational water activities.

## MOBILITY AND COMMUNITY CONNECTIVITY

A key goal of the proposed project is to permit individuals and communities to move around freely with or without a car, and revitalize neighborhoods to be a place where people can live, work, and play.

**This project would increase affordable transportation options for underserved, overburdened, or disadvantaged communities.** The improvements along West Main Street will help reconnect neighborhoods on the west side of Waterbury to the downtown area and the Green. These areas have been split by the Route 8 Expressway which runs in a north-south direction and has effectively divided the city. The West Main Street improvements will make a better connection at the west end of the project where the elevated ramps of Route 8 have created an imposing barrier.

West Main Street also serves as a main bus route corridor as several local bus routes operate along West Main Street. The proposed improvements will provide a safer environment for bus patrons to access the bus service and a safer way to reach their final destination once they leave the bus. This project also includes the improvement of bus stop locations. The reduced road width will be used to provide a place for buses operating along West Main Street to pull safely out of the travel lane to stop and pick up and drop off passengers.

**Accessibility will be increased for all users of the project, particularly for non-motorized travelers, with the project proactively incorporating universal design.** Mobility will be enhanced by implementing a road diet along West Main Street to reduce the number of travel lanes and create a uniform road width. These actions will help to calm traffic, reduce conflict points, and make it easier for pedestrians to cross the street. The added landscaped area along the corridor will be more inviting to walkers and make them feel safer by changing the feel of the street environment from auto-centric to one that is more accommodating to those walking or bicycling. West Main Street is a principal corridor connecting the west side of Waterbury with its downtown. The proposed improvements will encourage residents to walk or bicycle this corridor instead of using a private vehicle. Accessibility for pedestrians (and all users) will be improved by way of the installation of pedestrian-actuated signals that meet current MUTCD requirements for compliance with ADA regulations, including audible and visual features. Additionally, the project will install curb extensions at intersections to reduce the walking distance across West Main Street and provide a place of refuge while waiting to cross, ensuring the safety of pedestrians.

**Ultimately, this project encourages thriving communities for individuals to work, live, and play in by creating transportation choices for individuals to move freely in without a car.** Completion of Phase II of Waterbury's section of the NRG trail will complete 2.3 miles of trail and connect the City from Eagle Street to Thomaston Avenue. This will greatly enhance mobility through the area and help connect adjacent neighborhoods to job opportunities located along the trail, including those along Freight Street, West Main Street, the downtown, and South Main Street. This extension will also directly connect to the pedestrian and bicycle side path installed along Freight Street as part of the previous TIGER project.

**The project will increase multimodal freight movement and the movement of supply chains.** Upon completion, the NRG Trail will run almost the length of Connecticut from Torrington to the north to Derby in the south, with almost every train station along the Waterbury Branch of the New Haven Rail Line located along or within walking distance to the NRG Trail. This project will connect rail lines throughout the region and state.

## ECONOMIC COMPETITIVENESS AND OPPORTUNITY

The previous TIGER project was intended to be the catalyst for economic development within the Freight Street district of Waterbury. The district is intended to be a mixed-use area, with high-density residential, retail, commercial and health care uses. This current application will continue the improvements initiated under TIGER, continue to provide access to location-efficient housing and expand the improvements to a wider area of the City. The West Main Street improvements connect directly with the extension of Jackson Street and rehabilitation of Freight Street. Together, these project components have the potential to link neighborhoods & provide great economic benefits to the City, region, and State.

**WATER Phase II offers significant regional and national improvements in economic strength and opportunity and access to high-quality jobs.** The extension of the NRG Trail through Waterbury will generate direct economic benefits from both the money spent to build the trail (salaries, materials) and money spent by trail users, as well as indirect benefits such as job creation, increase in gross domestic product, and changes in personal income. As the trail is developed, the surrounding land area will become more attractive and cause an increase in property values, in turn generating additional tax revenue.

The proposed extension of NRG Trail has the potential to greatly improve redevelopment prospects in the distressed and underutilized neighborhoods through which it will pass. It will tie in with community revitalization work, brownfield remediation, and redevelopment plans of several industrial sites along the route. An economic impact study completed by NVCOG in 2017 estimated that the completion of Waterbury's section of NRG trail would result in \$11.8 million in annual direct user spending and \$72.2 million in cumulative health benefits by 2031, with economic benefits far exceeding the cost to build the trail. Not only will the trail provide non-motorized transportation and recreation access in the corridor, but it will also help spur redevelopment along its route, and provide new economic opportunities in historically disadvantaged neighborhoods.

**The project increases transportation options and system connectivity to revitalize underserved, overburdened, or disadvantaged communities and increases access to jobs and location efficient affordable housing, or facilitates tourism opportunities.** The proposed project will make alternative transportation modes more accessible and thereby increase the use of affordable means. Specifically, the improvements will prompt more travelers to walk or bicycle as opposed to using a private vehicle. Access to public transit will be easier and safer. Many who do not have a private vehicle available for use will be able access needed services and have a means to reach employment opportunities. Recently, the City of Waterbury and Borough of Naugatuck have entered into a partnership to develop an industrial park that straddles the border between the two communities. The site is targeted for a new Amazon distribution center. It will be easily accessed from the NRG Trail and the trail will provide an active transportation link to the industrial park from the downtown area, as well as neighborhoods located along the corridor. Several bus stops are designated along the trail, and a connection to the Waterbury train station is also planned. This direct connection to the future Amazon distribution facility and planned bus routes ensures disadvantaged communities will have access to high quality jobs and a means of transportation to such jobs. The trail, as it is extended, has the potential to attract tourists and provide access to

downtown attractions, including the Mattatuck Museum located on the Green.

Located along Waterbury's section of the NRG trail are several former industrial sites, between ~14 and ~17 acres in size, that are currently under redevelopment. Upon redevelopment, these sites will have the potential to result in hundreds of industrial, commercial, or mixed-use commercial jobs. The Waterbury NRG Trail will directly connect disadvantaged communities to these jobs. The City's workforce development programs (Northwest Regional Workforce Investment Board, the Manufacturing Alliance Service Corp., etc.) have written letters of support that can be found attached to this application showcasing the great potential that this project could have for job creation.

**The WATER Phase II project will implement necessary local high agreement/requirements and work alongside workforce development boards during its implementation.** The City has vast experience working with RFPs and ITBs to bid out projects & contract. Additionally, the City has significant experience working with local workforce boards & unions to ensure the incorporation of strong labor protections into the performance of projects, complying with all necessary regulations. This history of working with local workforce boards & labor units to implement local hire agreements and comply with necessary regulations would continue under WATER Phase II.

#### STATE OF GOOD REPAIR

The proposed WATER Phase II project will generate significant benefits to the state of good repair of transportation infrastructure in the City and Region, one of the key goals of the project.

**WATER Phase II will restore and modernize core infrastructure assets.** The West Main Street corridor currently has an inconsistent width. Some sections have four travel lanes and others have two. Because of existing land development patterns there are numerous and closely spaced curb-cuts and awkward intersection alignments. These features contribute to the high number of vehicle crashes and lack of pedestrian and bicycle activity. The project will rehabilitate the roadway and correct the many operating deficiencies. The number of curb-cuts will be reduced through an access management program that will reduce the number of commercial driveways. The road diet will rationalize the lane configurations and create space to improve the adjacent streetscape environment to make it more pedestrian friendly. In addition, the roadway will be rebuilt to provide bicycle lanes and shared paths where possible. These enhancements will restore and modernize core downtown infrastructure.

**The project will address current or projected system vulnerabilities for underserved, overburdened or disadvantaged communities.** The Waterbury Phase II of the NRG Trail extension will be aligned through an older, underutilized industrial area with several vacant parcels. There are several identified brownfield sites that the city has either assessed or is applying for funds to remediate. The trail project will assist the city in revitalizing these sites. In several areas along its alignment, it will serve as a cap for identified contaminated soils and be a more cost-effective method of remediation than removal.

An important goal of the project is to create a new riverfront park along the Naugatuck River. Jackson Street, which was rehabilitated and extended as part of the TIGER project, will provide access to the new park. The parcel is a former industrial site and currently lies vacant. The planned park will restore the nine-acre site and provide a waterfront park with access to the Naugatuck River. This will create an amenity that does not currently exist in the city, addressing system vulnerabilities for the disadvantaged community that resides within the Freight Street Corridor.

**Waterbury is committed to maintaining any constructed WATER Phase II assets in a state of good repair.** Proposed improvements are consistent with State, local, and regional efforts to maintain transportation facilities in a state of good repair. The project will be designed to CTDOT's material and design specifications. The new streetscape, EV, roadway, and trail infrastructure to be constructed as part of the WATER Phase II project will significantly reduce life-cycle costs for operation and maintenance of nearby roadways by an expected decrease in motorized travel and increase in travel by bicyclists and pedestrians, thereby increasing service life. The City's Department of Public Works will maintain all project components in a state of good repair.

## PARTNERSHIP AND COLLABORATION

The WATER Phase II project has broad public support and the City has already engaged diverse people and communities in the planning process. The project reflects a broad partnership and collaboration across local, regional, and state entities, both public and private. The project supports and engages diverse people and communities beyond common practice through **collaborations with other public and private entities.**

**This project ensures that equity considerations for underserved, overburdened, or disadvantaged communities are meaningfully integrated into planning, development, and implementation of transportation development.** This is done through the inclusion of all stakeholders in the planning, development, and implementation processes. A Public Involvement Plan is attached to this application in Appendix F that showcases the plan for outreaching to disadvantaged communities meaningfully. The City has seen strong community support for this project and has engaged Environmental Justice communities in the Naugatuck River Corridor by way of public input meetings, many of which took place during phase I of the Greenway's Construction. Additionally, Waterbury's West Main Street Corridor Study held several public meetings in a workshop style format that allowed for community input. Information on previous outreach can be found in Appendix F. The City will continue to communicate project progress meaningfully utilizing the methods outlined in the Public Involvement Plan.

As is evidenced by the inclusion of several workforce development programs and worker representatives in the project's development and conceptual planning stages, this project is dedicated to **supporting the creation or expansion of high-quality, good paying jobs through workforce development programs that incorporate worker representatives and incorporating workforce strategy into project development.** Please see the table above for more information on several of the workforce development boards & representatives involved in this project. **Private sector entities, particularly Disadvantaged Business Enterprises were, and will continue to be, incorporated in transportation infrastructure planning, designing, or building.** Letters of



support from such private sector entities can be found in Appendix E.

Stakeholders included in community meetings and project planning are the State of CT DOT, DECD, DEEP, Naugatuck Valley Council of Governments, the Regional Naugatuck River Greenway Steering Committee, the Northwest Regional Workforce Investment Board, Waterbury Regional Chamber of Commerce, CT Greenways Council, Shelton EDD, Waterbury Neighborhood Council, and more. Letters of support from various public, nonprofit, and private organizations can be found in Appendix E.

## INNOVATION

The **WATER Phase II project will use practices that facilitate improved project delivery.** The applicant for this project is the City of Waterbury. Waterbury's current Mayor, Mayor O'Leary, has been recognized by the EPA for his work in brownfield redevelopment and community redevelopment in 2016's New England Environmental Awards in Boston. Waterbury has undertaken several large projects, and has delivered them on time and on/under budget, including WATER Phase I TIGER grant, numerous EPA, and State of Connecticut brownfield grants, and more. The City of Waterbury will work in conjunction with Waterbury Development Corporation, Naugatuck Valley Regional Development Corporation, the Naugatuck Valley Council of Governments, and other entities to facilitate improved project delivery.

The City has a history of **incorporating innovative funding and financing** into projects, which will continue with WATER Phase II. The City will continue to pursue grants opportunities and public-private partnership financing opportunities. The City has had public-private partnership renovations take shape in the downtown, such as the former historic downtown Howland Hughes Department Store, which now houses Post University following a \$15M renovation (\$7.7M in State funding, \$7.3M private funding).

One of the explicit purposes of the WATER Phase II project is to further innovation. The proposed project will **deploy technologies and other practices that drive safety, equity, climate and resilience, or economic outcomes for underserved, overburdened, or disadvantaged communities or augment workers.** This project incorporates several innovative features including:

- **Electrical Vehicle Charging Stations:** The parking lot at the Waterbury train station was equipped with publicly available Level 2 EV charging equipment as part of its recent reconstruction. To expand the opportunity for those commuting from the station or work in the downtown, additional EV charging stations will be installed.
- **Bioretention Swales along the NRG Trail:** The extension of the NRG Trail will incorporate bioretention swales. Bioretention provides stormwater treatment that enhances the quality of downstream water bodies. Runoff is temporarily stored in the bioretention swale and is naturally filtered to remove pollutants and released to the adjacent soils. The bioretention swale also provides shade and wind breaks, absorbs noise and improves the area landscape. These systems will reduce the volume of runoff from a drainage area, reducing the required size and cost of downstream stormwater management facilities, by promoting at-source infiltration.

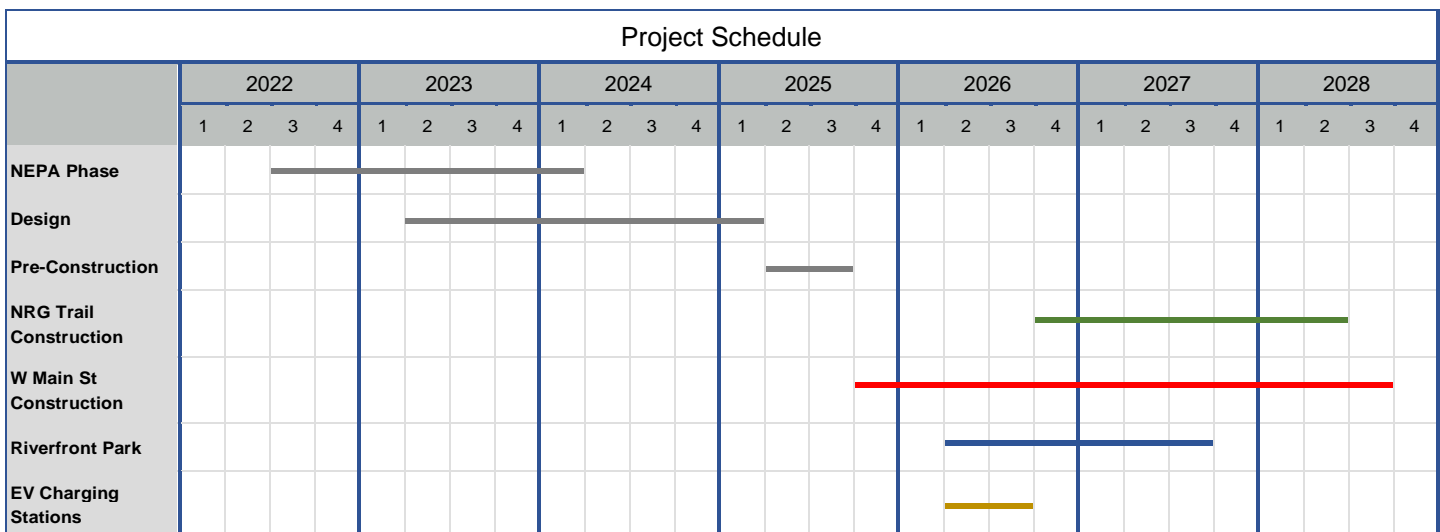
## 5. PROJECT READINESS

### ENVIRONMENTAL RISK

#### Project Schedule

The schedule for the proposed project is shown in the following figure. Assuming a grant award by September 2022, the City anticipates initiating the environmental assessments and reviews in the fourth quarter of 2022, with engineering and design activities commencing at the start of 2023. The environmental assessments will require about sixteen months to complete with design occurring over a two-year period. Pre-construction activities, including advertising and bid award will be completed over a six-month time period with construction starting by the 4th quarter of 2025. All construction activities are expected to be completed by the end of 2028.

**The project schedule for the proposed activities, as presented above, will allow RAISE grant funds to be obligated sufficiently well in advance of the statutory deadline and has contingencies for delays so as to ensure that delays will not put the funds at risk of expiring before they are obligated.**



The assessment of the environmental conditions is a critical first step in the proposed project. With notification of award, environmental assessment, permitting and preliminary design of the alignment of the greenway trail will immediately commence. Environmental assessment is required as part of the permitting process. Because the trail will traverse several post-industrial parcels, the assessment of the alignment is expected to take about 16 months. This includes completing laboratory analysis of soils and development of a remediation plan. Conceptual designs were prepared for the greenway for the WATER Phase I project, but new work is required to verify the specific route. For the West Main Street component, the planning study has identified preliminary concepts but this work has not included any engineering plans. The immediate commencement of the environmental assessment and design tasks will ensure that funds are partially obligated upon award. These phases of the project are expected to be completed by the end of the first quarter of 2024. **The design phase will include public input tasks.**

With 24 months budgeted to complete final design plans, preparation of contract documents, acquisition of right of way (ROW) easements, and finalization of environmental reviews and approvals, the City anticipates that the construction phase of the project will be put out to bid by the end of 2025. **Six months is budgeted for advertising, bidding, award of contract, and contract negotiations. This will enable the start of construction in the 3rd quarter of 2025, at which time funding for construction and resident engineering inspection (REI) will be obligated, a total of 36 months after the initial obligation of funds.** Funds, according to RAISE guidelines, must then be expended by September 30, 2031, however construction of all components is anticipated to be completed by the end of 2028. A total of 36 months is allocated to the construction of all components. Because the renovation of West Main Street will occur within the existing right-of-way, it is expected to advance to construction first.

The City will need to finalize acquisition of easements for the Waterbury NRG Trail prior to beginning construction on this component. As evidence of its committed efforts, the City has begun discussion with property owners on whose property an easement or right-of-way acquisition is sought. Many of these property owners have expressed enthusiastic support for the project, with some of their letters of support found in Appendix E.

To ensure adequate time for obtaining easements, the start of construction is scheduled for the third quarter of 2026, with completion requiring two years. The remaining two components will be completed within these timeframes, with the installation of the additional EV charging stations requiring only about two months to complete. The reclamation and remediate of the Riverfront Park area is dependent upon the CTDOT's completion of its currently ongoing I-84 and Route 8 ramp rehabilitation project which is currently scheduled for 2023. While a roughly three-year timeline is allocated to complete the project, it is believed that 2.5 years will be sufficient to build the improvements described herein. Between submission of this application and start of final design, the City and its partners will work diligently to advance design and construction estimates.

## REQUIRED APPROVALS

### NEPA:

The WATER Phase II Project will be submitted through the FHWA to complete National Environmental Policy Act (NEPA) review and processing. Phase I of the Waterbury Naugatuck River Greenway Project, which runs from Platts Mill Road to Eagle Street, was determined to be Categorically Excluded by the FHWA without the need for further documentation. However, the WATER Phase II project has more components than the stand along greenway project under construction. Due to the nature of potential resource impacts and the number of potential Brownfield sites within the greenway alignment, the extent of environmental compliance needs to be determined and addressed. The project schedule has allocated 16 months to comply with environmental requirements, including the completion of environmental assessment of the corridor, wetland delineation, hazardous waste assessments, and cultural resource screenings. The Section 106 and Section 4(f) process, inclusive of coordination with the State Historic Preservation Office, is expected to run concurrently with the NEPA process and be completed within approximately the same timeframe.

### ***Information on Reviews, Approvals, and Permits by Other Agencies:***

Although additional, more detailed analyses are required as the design progresses, the permits discussed below are anticipated to be required for the proposed project. The process for obtaining these permits will begin as the preliminary design is advanced and simultaneously with the NEPA review. Final permitting is anticipated to be received by the end of the first quarter 2025. All departments within the City are aware of the high priority of this project and are dedicated to the coordination and advancement of local permits with the contractor as necessary. Several permits from CTDEEP and US Army Corps are necessary including a Flood Management Certificate, Natural Diversity Database Review, Fisheries Review, Stream Channel Encroachment Line Permit, U.S. Army Corps of Engineers Section 404 and Section. Additionally, this project will require local Water, Sewer, Street, and Building Permits.

### ***Environmental Studies or Documents:***

All relevant environmental studies will be included in Appendix D. The scope of work for this project includes the completion of environmental assessment of the corridor, including wetland delineation, hazardous waste, and cultural resource screenings, and the preparation of a detailed Feasibility Report. A focus study, funded by the USEPA, examining the Community Vulnerability of several sites located along the Naugatuck River in EJ communities is also attached.

### ***Discussions with Connecticut Department of Transportation (CTDOT):***

CTDOT was a Project Partner in Phase I of the WATER Project and the Department has acted as the administrative agency for construction of the Waterbury NRG Trail Phase I project that is currently under construction. CTDOT and the City will continue this partnership in WATER Phase II, with the City looking to CTDOT to provide assistance in technical matters and with CTDOT providing access to state-owned assets. The City is in constant contact with CTDOT and as the environmental analysis work is performed for this project, the City will remain in contact with CTDOT regarding NEPA status.

### ***Right-Of-Way Acquisition Plans:***

The City spent approximately \$1.7 million to develop conceptual plans, conduct preliminary community and stakeholder outreach activities and begin preliminary right-of-way outreach and environmental reviews for Phase I of the Greenway utilizing a consultant. Several activities funded under the original Greenway Phase I contract with the consultant include the development of conceptual plans for the greenway as well as stakeholder outreach, community activities and the identification of right-of-way acquisition. As evidence of this committed effort, the City and consultants have had preliminary contact with the majority of the property owners on whose property an easement is sought. Many of the property owners see the opportunity of the project and have expressed this in the attached letters of support. Included in Appendix H are maps of proposed easements. Included in Appendix E are letters of support from several property owners located within the project's boundaries.

### ***Public Engagement About Project:***

Community outreach has been ongoing and continues to take place for the project. For the component titled “Naugatuck-River Greenway Phase II,” public meetings and workshops have been ongoing since at least 2009, with community members providing input that ultimately guided the 30% conceptual plans for the greenway. These workshops discussed the need for a greenway and possible route options and provided stakeholders and those with possible right-of-way impacts the ability to provide input and opinion on the routing of the project. With respect to the West Main Street corridor, several community meetings have taken place to discuss the planning study. Community feedback on conceptual plans and recommended actions was generated and guided revisions to the preliminary concepts. These meetings took place in April and October of 2021. Information about this public outreach effort, including presentations and sign-in sheets can be found in Appendix F.

The meetings were held in the neighborhoods directly affected by the projects to be more readily accessible to residents. The times for the meetings were set to better accommodate the schedules of working individuals, especially those in EJ Communities. Internet-based outreach was also implemented, so that stakeholders could be informed about the projects without being required to attend a meeting. The project websites also afforded interested persons to provide comments and input, as well as complete on-line surveys.

### **STATE AND LOCAL, AND FEDERAL PLANNING**

At the local level, the WATER Phase II project meets a number of goals identified in the City’s Plan of Conservation and Development (POCD) (2015-2015) such as “developing and expanding the greenway system” and the sub-item of “complete the Naugatuck River Greenway Phase II” associated with the aforementioned goal. Additionally, WATER Phase II furthers “future bicycle and pedestrian improvements” and “add[s] electric vehicle charging stations to the train station.” This project furthers “complete streetscape improvements” in the downtown” and “create[s] on-street bicycle connections to the Naugatuck River Greenway.” The POCD can be found attached in Appendix G.

The project is also consistent with Regional POCDs for the Valley Council of Governments, Council of Governments of the Central Naugatuck Valley, and the Central Connecticut Regional Planning Agency. These former organizations were consolidated in 2015 to form the Naugatuck Valley Council of Governments. Each document directly addresses greenway preservation or expansion, enhancement of pedestrian and bicycle transportation, and the conservation of resources (environmental planning). Construction of the entire length of the NRG Trail is a priority project in the Metropolitan Transportation Plan (MTP) for the Central Naugatuck Valley Metropolitan Planning Organization.

The Phase I project (State Project No. 0151-0321), currently under construction, was funded, in part, by federal assistance from the USDOT and included in the STIP/TIP. Additionally, the MTP emphasizes the promotion of electric vehicles and the implementation of “complete streets.” The MTP also stresses the enhancement of multi-modal opportunities and sustainable economic development. The MTP can be found attached in Appendix G. If RAISE program funds are awarded

to the project, it will be added to the STP/TIPs.

The proposed WATER Phase II project is consistent with State conservation and development policies including the “Plan for Connecticut 2013-2018” (most adopted final version), under principle #2 which encourages development of a “network of pedestrian and bicycle paths and greenways that provide convenient access between and with towns, including access to the regional public transportation network.” WATER Phase II is also consistent with the draft Plan for Connecticut 2013-2018 currently under review by the Continuing Legislative Committee on State Planning and Development for approval under principle #4 which is to “expand the state’s open space and greenway network.”

WATER Phase II is consistent with Connecticut Department of Transportation’s 2019 Active Transportation Plan, with the Naugatuck River Greenway identified as a Connecticut Trail of Regional Significance in the plan. Additionally, the Naugatuck River Greenway is an officially designated Connecticut Greenway by the State of Connecticut DEEP/Connecticut Greenways Council. Letters of support for the project from both organizations are attached.

### ASSESSMENT OF PROJECT RISKS AND STRATEGIES

The greatest risks to the project are identified below with mitigation strategies. The below mitigation strategies incorporate public input, especially from those in environmental justice communities or in historically disadvantaged communities. The City’s Public Involvement Plan for the WATER Phase II project is attached in Appendix F and is based on the US EPA’s public involvement plan template.

<p>ROW Easements/ Acquisition</p>	<ol style="list-style-type: none"> <li>1. The City has ensured all stakeholders have been involved in the early stages of project development and have held many public workshops or informational sessions in varying formats to accommodate a variety of stakeholders, including those in environmental justice communities.</li> <li>2. The City has developed a reasonable right of way acquisition schedule.</li> <li>3. The City will continue to actively communicate progress status with all stakeholders. Such communication will be guided by a public involvement plan, attached in Appendix F.</li> </ol>
<p>Enviro. Uncertainties</p>	<ol style="list-style-type: none"> <li>1. The City has budgeted a contingency to address environmental findings.</li> <li>2. The City has developed a reasonable construction schedule.</li> </ol>

## 6. BENEFIT:COST ANALYSIS

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A benefit-cost analysis (BCA) was conducted for the WATER Phase II project as a requirement of the grant application for the RAISE program. The analysis was performed according to the “Benefit-Cost Guidance for Discretionary Grant Programs” issued by USDOT in March 2022. The analysis was conducted for a 25-year analysis period of project lifecycle and operations. Detailed cost and benefit tables can be found in Appendix B.

The proposed elements of the project will provide significant mobility upgrades in the City of Waterbury, as well as provide improved mobility choices and for low-income, Historically Disadvantaged Communities and Environmental Justice populations.

The benefits that will be realized from this project include:

- Safety – reduction of crashes along West Main Street, improved pedestrian safety; and fewer serious injuries and fatalities
- Travel Time Savings – improvements along West Main Street will reduce travel times for bus services operating on West Main Street; reduction in crashes will improve travel time reliability
- Emissions – reductions of Greenhouse gases, Volatile Organic Compounds and fine particulate matter (PM2.5)
- Pedestrian Amenities – improve pedestrian safety and encourage walking
- Bicycle Amenities – along NRG Trail and West Main Street will improve mobility and access to active transportation
- Health Benefits – increased levels of physical activity will improve health, decrease incidence of diabetes, cardiovascular disease and obesity.

The overall construction cost of the project is estimated at \$29.9 million in 2022 dollars. This cost includes other phases of the project, including planning, environmental review and assessment and design. The operation and maintenance expenses are expected to be included in the annual municipal budget. In real 2020 dollars, the project creates \$106,758,142 in present value benefits when discounted at 7 percent or \$194,374,248 when discounted at 3 percent.

In addition to the monetized benefits, the project will generate substantial induced economic benefits. Since the construction of the I-84/Route 8 “Mixmaster” interchange in the late 1960’s, the western half of the West Main Street corridor (from the interchange east to the West Main Street - Willow Street intersection) has gradually transitioned from a lively high density, mixed use urban neighborhood to a primarily auto-oriented retail and manufacturing zone with comparatively low economic value, low commercial rents and high rates of vacancy and turnover.

The WATER Phase I project has enhanced connectivity and created new commercial development opportunities along Freight Street to the south of West Main Street. The improvements identified for the WATER Phase II project are intended to continue the enhancements begun under the first phase and provide the building blocks for a more vibrant and economically productive use of adjacent properties.

Because of its strategic location at the I-84 and Route 8 interchange, the potential for future mixed-use development along this corridor is very strong. By creating a more pedestrian-friendly environment, there is an opportunity to rebuild or repurpose existing commercial buildings to more intensive use as well as to induce new investment in residential and commercial mixed-use buildings of 4-to-6 stories. While detailed redevelopment plans have not yet been formulated, it is a reasonable assumption that up to 1,000 new residential units could be constructed over the 25-year project horizon along with up to 100,000 square feet or more of retail and commercial space on the ground floors offering the City of Waterbury an opportunity to recapture the vitality that once existed in the area prior to the expressway construction program.

The 2017 economic analysis of completing the entire NRG Trail, determined that the currently, unconnected trail segments of the NRG Trail are already yielding benefits to citizens within the Naugatuck River Valley. Residents within closest proximity to trailheads and those nearby realize a combined annual consumer surplus, (the value they derive from being near the trail but for which they may not be paying) of about \$13.8 million. It is important to note that, based on the findings presented in the analysis, residents of the region derive significant consumer surplus from the NRG, even if they do not reside in an area that has a nearby trail head or easy trail access point. For the City, the trail is expected to generate about \$11.8 million per year in direct spending by visitors and users of the trail by 2031, based on an expected 782,000 annual visits. In addition, the NRG Trail, once completed, has the potential of creating 2,800 jobs, expanding the Gross Domestic Product by \$256 million (2009) and personal income by \$412 million. These estimates are regional impacts derived by the REMI economic model.

Health benefits are expressed in terms of lives saved, that is, extended life years, and improvements in the quality of patients' and caregivers' health, and, in this instance, trail users' quality of life improvements and consequentially lives saved.